Listing of Claims:

1-35. (Canceled).

36. (New) A method for monitoring updates in a software repository in a multi-author software design environment, comprising:

constructing a first snapshot of a set of software module source code stored by the software repository at a first point in time, the source code represented by a plurality of objects;

constructing a second snapshot of the set of software module source code stored by the software repository at a second point in time;

comparing the first snapshot with the second snapshot;

rating each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders an attribute of the second snapshot incompatible with a similar attribute of the first snapshot;

determining an overall backward compatibility score for the second snapshot, based on the rated differences; and

issuing an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold.

37. (New) The method of claim 36, wherein the backward compatibility threshold is set by a registered author.

38. (New) The method of claim 36, wherein the constructing is performed a plurality of times, to construct a plurality of successive snapshots representing the software repository as respective points in time, each successive snapshot having a version and being stored in a snapshot history database.

39. (New) The method of claim 38, wherein each successive snapshot is constructed on a periodic basis.

40. (New) The method of claim 39, wherein the periodic basis is a set timetable.

41. (New) The method of claim 38, wherein each successive snapshot is constructed in response to a predefined event.

42. (New) The method of claim 36, wherein the alert message is issued only to authors of objects for which differences are detected.

43. (New) The method of claim 36, wherein the alert message is issued only when the overall backward compatibility score indicates the second snapshot is not backward compatible.

44. (New) The method of claim 36, wherein the backward compatibility metric comprises a table of software modifications identifying backward-compatible software modifications and backward-incompatible software modifications.

45. (New) The method of claim 36, wherein the backward-incompatible detected differences include: a deleted parameter from a subroutine; and a deleted field from a public data structure.

46. (New) The method of claim 36, wherein the backward-incompatible detected differences include: an added mandatory parameter in a subroutine; and an added mandatory field in a public data structure.

47. (New) The method of claim 36, wherein the backward-incompatible detected differences include: an optional parameter redefined as a mandatory parameter; a changed parameter data type; and a changed public field data type.

48. (New) A system for monitoring updates in a software repository in a multi-author software design environment, comprising:

a processor configured to construct a first snapshot of a set of software module source code stored by the software repository at a first point in time, the source code represented by a plurality of objects;

the processor configured to construct a second snapshot of the set of software module source code stored by the software repository at a second point in time;

the processor configured to compare the first snapshot with the second snapshot;

the processor configured to rate each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders an attribute of the second snapshot incompatible with a similar attribute of the first snapshot;

the processor configured to determine an overall backward compatibility score for the second snapshot, based on the rated differences;

the processor, in connection with an output device, configured to issue an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold.

49. (New) The system of claim 48, wherein the first and second snapshots are constructed from a subset of the software module source code, the subset specified by a registered author.

50. (New) The system of claim 48, wherein the constructing is performed a plurality of times, to construct a plurality of successive snapshots representing the software repository as respective points in time, each successive snapshot having a version and being stored in a snapshot history database.

51. (New) The system of claim 50, wherein each successive snapshot is constructed on a periodic basis.

52. (New) The system of claim 51, wherein the periodic basis is a set timetable.

53. (New) The system of claim 50, wherein each successive snapshot is constructed in response to a predefined event.

54. (New) The system of claim 48, wherein the alert message is issued only to authors of objects for which differences are detected.

55. (New) The system of claim 48, wherein the alert message is issued only when the overall backward compatibility score indicates the second snapshot is not backward compatible.

56. (New) The system of claim 48, wherein the backward compatibility metric comprises a table of software modifications identifying backward-compatible software modifications and backward-incompatible software modifications.

57. (New) The system of claim 48, wherein the backward-incompatible detected differences include: a deleted parameter from a subroutine; a deleted field from a public data

structure, an added mandatory parameter to a subroutine, an added mandatory field to a public data structure, an optional parameter redefined as a mandatory parameter, a changed parameter data type, and a changed public field data type.

58. (New) A computer-readable storage medium encoded with instructions configured to be executed by a processor, the instructions which, when executed by the processor, cause the performance of a method, comprising:

constructing a first snapshot of a set of software module source code stored by the software repository at a first point in time, the source code represented by a plurality of objects;

constructing a second snapshot of the set of software module source code stored by the software repository at a second point in time;

comparing the first snapshot with the second snapshot;

rating each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders an attribute of the second snapshot incompatible with a similar attribute of the first snapshot;

determining an overall backward compatibility score for the second snapshot, based on the rated differences; and

issuing an alert message to registered authors of the set of software module source code when the overall backward compatibility exceeds a backward compatibility threshold.

59. (New) The computer-readable storage medium of claim 58, wherein the constructing is performed a plurality of times, to construct a plurality of successive snapshots, each successive snapshot having a version and being stored in a snapshot history database.

60. (New) The computer-readable storage medium of claim 59, where the each successive snapshot is constructed on a periodic basis.

61. (New) The computer-readable storage medium of claim 60, wherein the periodic basis is a set timetable.

62. (New) The computer-readable storage medium of claim 59, wherein the periodic basis is responsive to a predefined event.

63. (New) The computer-readable storage medium of claim 58, wherein the issuing is performed for only the authors of affected software modules.

64. (New) The computer-readable storage medium of claim 58, wherein the alert message is issued only when the overall backward compatibility score indicates the updated version is not backward compatible.

65. (New) The computer-readable storage medium of claim 58, wherein the compatibility metric comprises a table of software modifications including backward-compatible software modifications and backward-incompatible software modifications.

66. (New) The computer-readable storage medium of claim 58, wherein the backward-incompatible detected differences include: a deleted parameter from a subroutine, a deleted field from a public data structure, an added mandatory parameter to a subroutine, an added mandatory field to a public data structure, an optional parameter redefined as a mandatory parameter, a changed parameter data type, and a changed public field data type.

68. (New) A method for monitoring updates in a software repository in a multi-author software design environment, comprising:

associating a registered author of the software design environment with a subset of a plurality of software module source code stored by the software repository, the source code defining a plurality of objects, wherein the subset is based on input received from the registered author;

constructing a first snapshot of the subset at a first point in time;

constructing a second snapshot of the subset at a second point in time;

wherein each snapshot includes an aggregation of methods and parameters of the software module source code in the subset, with methods and parameters of any software module referenced by the software module source code in the subset;

comparing the first snapshot with the second snapshot;

rating each detected difference according to a backward compatibility metric, the backward compatibility metric representing a probability that the detected difference renders an attribute of the second snapshot incompatible with a similar attribute of the first snapshot;

determining an overall backward compatibility score for the second snapshot, based on the rated differences; and

issuing an alert message to the registered author of the subset when the overall backward compatibility exceeds a predetermined threshold set by input from the registered author, the alert message including a list of each rated difference.